

Date: Sat, 9 Apr 94 04:30:38 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #92
To: Ham-Homebrew

Ham-Homebrew Digest Sat, 9 Apr 94 Volume 94 : Issue 92

Today's Topics:

 Directly plotting etch-resist on PC boards?
 Fixing HV supply on 'scope
 Modifying Vacuum Variables
 Ramsey kits

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 8 Apr 1994 13:13:25 +0100
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!usenet.ins.cwru.edu!eff!news.umbc.edu!
europa.eng.gtefsd.com!howland.reston.ans.net!pipex!uknet!acorn!not-for-
mail@network.ucsd.edu
Subject: Directly plotting etch-resist on PC boards?
To: ham-homebrew@ucsd.edu

In article <1994Apr7.164358.6906@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary
Coffman) writes:

>What I'd really like is one of those plotters with a milling cutter
>instead of a pen. That's the slick way to go, no messy etching, and
>lots of nice groundplane.
>

Maybe the people building CNC drilling machines will be able to do this ..
However, a halfway house (still needs messy etching but getting away from
the problems with limited resolution of cheaper pens) might be to mill
away only the etch-resist.

Spray a clean board with an etch-resistant coating (Letraset protective spray perhaps, or a damp-proofing spray for HT leads) then remove fine lines from it with some sort of replacement pen. The force and stability required to move a cutter that's attacking a thin plastic layer would be much less than that required to mill copper, and there'd be less of a problem with swarf.

I haven't tried this. I haven't even found time to try the etch-resist pen yet, so I don't know how well that's going to work for my application. I notice, however, that Staedtler have changed the design of their pens slightly, and the packaging specifically claims that they're fast-starting. Perhaps they're better than they used to be.

-adrian

Date: 7 Apr 1994 08:59:04 GMT
From: olivea!inews.intel.com!ilx018.intel.com!ilx049.iil.intel.com!
dbraun@ames.arpa
Subject: Fixing HV supply on 'scope
To: ham-homebrew@ucsd.edu

The HV winding in the power transformer of my scope (actually a old cheesy Heathkit model) failed, and I was wondering: Is there some easy replacement? It needs about 1000-1200 volts at maybe 1mA max. Don't Xerox machines have some little solid-state module that provides the HV for their corona wires? Could one of these work?

Doug Braun	Intel Israel, Ltd.	M/S: IDC-42 (new mailstop!)
4X/N10WU/AA	Tel: 011-972-4-655069	dbraun@inside.intel.com

Date: Thu, 7 Apr 1994 17:17:42 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!europa.eng.gtefsd.com!gatech!
news-feed-2.peachnet.edu!darwin.sura.net!mlb.semi.harris.com!
controls.ccd.harris.com!drs@network.ucsd.edu
Subject: Modifying Vacuum Variables
To: ham-homebrew@ucsd.edu

I have an older vacuum variable that is of the plunger style. The newer type have a screw mechanism. Anybody have experience with or know if it is within an average persons mechanical ability to modify it to screw type? I saw a

couple of them at a hamfest that were supposedly originally plunge type.

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-----  
|           Doug Snowden           |  
|           N4IJ                   |  
| email: drs@ccd.harris.com       |  
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Date: 9 Apr 94 02:31:02 GMT
From: agate!library.ucla.edu!csulb.edu!csus.edu!netcom.com!
nagle@ucbvax.berkeley.edu
Subject: Ramsey kits
To: ham-homebrew@ucsd.edu

gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>In article <CnFwKq.AxM@ra.nrl.navy.mil> drumhell@claudette.nrl.navy.mil (David
Drumheller) writes:
>> I'm interested in getting on 440 mHz ... cheaply. So I would consider
>>building a Ramsey kit. (They cost about \$160.) Questions: How easy are
>>they to build? Do they sell enclosures for them? How well do the radios
>>perform? How much test equipment do I need to calibrate and tune the
>>radio?
>Oh, oh, here we go again. The Ramsey kit is fairly easy to build, and
>yes they sell a cabinet. They don't perform that well, and you need
>sophisticated equipment, at least a spectrum analyzer, to tune them
>up properly.

Sounds about right. I've built a number of Ramsey kits of various flavors.
The stepping motor driver worked fine. The 20MHz receiver had 3 components
wrong and one misdrilled hole on the PC board, but it worked OK. (Why
20MHz? I just needed to see a working circuit with an NE602 at that
frequency.) I just built the MD-3 motion detector, which is a 1GHz
Doppler radar, and I can't even get it to oscillate. Tried changing
the RF transistor; no joy.

John Nagle

Date: Fri, 8 Apr 1994 14:30:42 GMT
From: elroy.jpl.nasa.gov!swrinde!emory!wa4mei!ke4zv!gary@ames.arpa
To: ham-homebrew@ucsd.edu

References <2nvrf8\$csa@usenet.INS.CWRU.Edu>,
<1994Apr7.164358.6906@ke4zv.atl.ga.us>, <2o3hp5\$9b5@acorn.acorn.co.uk>

Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)
Subject : Re: Directly plotting etch-resist on PC boards?

In article <2o3hp5\$9b5@acorn.acorn.co.uk> agodwin@acorn.co.uk (Adrian Godwin) writes:

>In article <1994Apr7.164358.6906@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>

>>What I'd really like is one of those plotters with a milling cutter
>>instead of a pen. That's the slick way to go, no messy etching, and
>>lots of nice groundplane.

>>

>

>Maybe the people building CNC drilling machines will be able to do this ..

They have, but they're quite expensive for an individual hobbieist. I've also seen homebrew adaptations of regular plotters and Dremel tools. They don't work very well because the plotter mechanism isn't designed to handle the forces needed for milling.

>However, a halfway house (still needs messy etching but getting away from
>the problems with limited resolution of cheaper pens) might be to mill
>away only the etch-resist.

>

>Spray a clean board with an etch-resistant coating (Letraset protective
>spray perhaps, or a damp-proofing spray for HT leads) then remove fine
>lines from it with some sort of replacement pen. The force and stability
>required to move a cutter that's attacking a thin plastic layer would
>be much less than that required to mill copper, and there'd be less of
>a problem with swarf.

This is a clever idea. You could use a swivel knife as your pen. The resist is likely to come off in curls though, so you probably need to chase it with a whisk brush. At slow plotting speeds, you should be able to keep the work area clear by hand. I think I'll try this out.

Gary

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Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

End of Ham-Homebrew Digest V94 #92
